

CLAIMS

1. A method of monitoring a concentration of oxygen in a beverage production process, the method  
5 characterized by comprising:

a step of continuously sampling gas in a space part inside a beverage storage tank storing a beverage to be filled, the beverage storage tank being provided to a beverage filler; a step of measuring a concentration of  
10 oxygen in the sampled gas; a step of comparing the measured value and a preset first reference concentration; a first determination step of issuing an alarm signal when the measured concentration of oxygen exceeds the first reference value;

15 a step of continuously measuring a concentration of oxygen included in the beverage inside the beverage storage tank; a second comparison step of comparing the measured concentration of oxygen in the beverage with a preset second reference value; and a second determination  
20 step of issuing an alarm signal when the measured concentration of oxygen in the beverage exceeds the second reference value.

2. A method of monitoring a concentration of oxygen in a beverage production process, the method  
25 characterized by comprising:

a step of continuously sampling gas in a space part inside a beverage storage tank storing a beverage to be filled, the beverage storage tank being provided to a  
30 beverage filler; a step of measuring a concentration of oxygen in the sampled gas; a step of comparing the measured value and a preset first reference concentration; a first determination step of issuing an alarm signal when

the measured concentration of oxygen exceeds the first reference value;

a step of continuously measuring a concentration of oxygen included in the beverage flowing through a  
5 beverage supply channel supplying the beverage to the beverage storage tank storing the beverage to be filled, the beverage storage tank being provided to the beverage filler; a second comparison step of comparing the measured concentration of oxygen in the beverage with a preset  
10 second reference value; and a second determination step of issuing an alarm signal when the measured concentration of oxygen in the beverage exceeds the second reference value.

3. An apparatus for monitoring a concentration  
15 of oxygen in a beverage production process, the apparatus characterized by comprising:

sampling means for continuously sampling gas in a space part inside a beverage storage tank storing a beverage to be filled, the beverage storage tank being  
20 provided to a beverage filler; measuring means for measuring a concentration of oxygen in the sampled gas; comparison means for comparing the measured value and a preset first reference concentration; first determination means for issuing an alarm signal when the measured  
25 concentration of oxygen exceeds the first reference value;

measuring means for continuously measuring a concentration of oxygen included in the beverage inside the beverage storage tank; comparison means for comparing the measured concentration of oxygen in the beverage with  
30 a preset second reference value; and second determination means for issuing an alarm signal when the measured concentration of oxygen in the beverage exceeds the second reference value.

4. An apparatus for monitoring a concentration of oxygen in a beverage production process, the apparatus characterized by comprising:

5       sampling means for continuously sampling gas in  
a space part inside a beverage storage tank storing a  
beverage to be filled, the beverage storage tank being  
provided to a beverage filler; measuring means for  
measuring a concentration of oxygen in the sampled gas;  
first comparison means for comparing the measured value  
10 and a preset first reference concentration; first  
determination means for issuing an alarm signal when the  
measured concentration of oxygen exceeds the first  
reference value;

measuring means for continuously measuring a  
15 concentration of oxygen included in the beverage flowing  
through a beverage supply channel supplying the beverage  
to the beverage storage tank storing the beverage to be  
filled, the beverage storage tank being provided to the  
beverage filler; second comparison means for comparing the  
20 measured concentration of oxygen in the beverage with a  
preset second reference value; and second determination  
means for issuing an alarm signal when the measured  
concentration of oxygen in the beverage exceeds the second  
reference value.

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5. An apparatus for monitoring a concentration of oxygen in a beverage production process, the apparatus characterized by comprising:

30       a flow channel for gas in a space part inside a  
beverage storage tank storing a beverage to be filled to  
flow through to outside the beverage storage tank, the  
beverage storage tank being provided to a rotary beverage  
filler;

a distributor for receiving the gas from the flow channel and delivering the gas outside the beverage filler, the distributor being provided to a rotating central shaft part of the beverage storage tank; an oxygen  
5 measuring device constantly measuring a concentration of oxygen in the gas delivered from said distributor; a delivery device for delivering the gas inside the space part to said oxygen concentration measuring device via said flow channel and said distributor; and a  
10 determination device comparing the concentration of oxygen from said oxygen concentration measuring device with a preset reference value and issuing an alarm signal when the measured value exceeds the reference value.